In the Claims:

1. (Currently amended) An optoelectronic module, comprising:

a carrier element having electrical connection electrodes and electrical lines; [[,]]

at least one semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component being applied on the carrier element and being electrically connected to connection electrodes of the carrier element and having a radiation coupling area; [[,and]]

at least one optical device assigned to the semiconductor component; and [[,]]

~~characterized in that~~

a connecting layer made of a radiation-transmissive, deformable material ~~is~~ arranged in a gap between the radiation coupling area and the optical device,

wherein the optical device and the semiconductor component ~~being~~ are fixed relative to one another in such a way that they are pressed against one another and that the connecting layer is thereby squeezed in such a way that it generates a force that strives to press the optical device and the radiation coupling area apart.

2. (Currently amended) The optoelectronic module of claim 1,

~~characterized in that~~ wherein

the connecting layer has a thickness of at least 30 μm~~, preferably of at least 100 μm~~.

3. (Currently amended) The optoelectronic module of claim 2,

~~characterized in that~~ wherein

the connecting layer has a thickness of greater than or equal to 150 µm and less than or equal to 350 µm.

4. (Currently amended) The optoelectronic module of claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the connecting layer has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.

5. (Currently amended) The optoelectronic module of claim 1 ~~one of the preceding claims,~~

~~characterized in that~~ wherein

a surface of the carrier element is at least partly coated for protection against external influences with a material that is also contained in the connecting layer.

6. (Currently amended) The optoelectronic module of claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

a refractive index of the connecting layer is adapted to a refractive index of a material of the semiconductor component that adjoins the connecting layer and/or to a refractive index of a material of the optical device that adjoins the connecting layer.

7. (Currently amended) The optoelectronic module of claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the optical device has refractive and/or reflective elements.

8. (Currently amended) The optoelectronic module of claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the semiconductor component is a luminescence diode component.

9. (Currently amended) The optoelectronic module of claim 1, ~~one of the preceding claims,~~

~~characterized in that~~ wherein

the semiconductor component is a surface-mountable component.

10. A method for producing an optoelectronic module ~~having at least the method~~ comprising the steps of:

providing a carrier element having electrical connection electrodes and electrical lines; [[,]]

providing a semiconductor component for emitting or detecting electromagnetic radiation, said semiconductor component having a radiation coupling area;[[, and]]

providing an optical device;[[,]]

applying the semiconductor component on the carrier element and electrically connecting the semiconductor component to the connection electrodes; [[, and]]

mounting the optical device above the radiation coupling area of the semiconductor component; and [[,]]

~~characterized in that,~~

prior to mounting the optical device, providing a curable and – in a cured state – radiation-transmissive and deformable composition ~~is applied~~ at least over the radiation coupling area of the semiconductor component,

~~in that~~ wherein the applied composition is at least partly cured or let to be cured, and

~~in that~~ wherein the optical device and the semiconductor component are fixed relative to one another in such a way that they are pressed against one another and thereby that the connecting layer is squeezed in such a way that it generates a force the composition strives to press the optical device and the radiation coupling area apart.

11. (Currently amended) The method of claim 10,

~~characterized in that~~ wherein

the composition is applied in the form of a layer having a thickness of at least 30 µm[[,]] ~~preferably of at least 100 µm~~.

12. (Currently amended) The method of claim 11,

~~characterized in that~~ wherein

the composition is applied in the form of a layer having a thickness of greater than or equal to 150 µm and less than or equal to 350 µm.

13. (Currently amended) The method of claim 10, ~~one of claims 10 to 12,~~

~~characterized in that~~ wherein

the composition has a lacquer, preferably a circuit board lacquer, which is deformable in a cured state.

14. (Currently amended) The method of claim 10, ~~one of claims 10 to 13,~~

~~characterized in that~~ wherein

the composition is applied at least to a part of a surface of the carrier element for protection against external influences.

15. The method of claim 14,

~~characterized in that~~ wherein

the composition is applied to the radiation coupling area and to the surface of the carrier element in a single method step.

16. (New) The optoelectronic module of claim 2, wherein the connecting layer has a thickness of at least 100 μm.

17. (New) The method of claim 11, wherein the composition is applied in the form of a layer having a thickness of at least 100μm.